

IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. - 17. (Canceled)

18. (New) An image processing method, comprising:

a division step of inputting an image which has image property information for each pixel, and dividing the input image into a plurality of blocks;

a compression step of compressing each of the divided blocks to generate compression data for each block;

a storage control step of storing sequentially, into a memory, the compression data generated in said compression step;

a first control step of controlling said storage control step so as to generate a first packet including compression data of a block of interest and record the generated first packet into the memory, if total data size of all pieces of compression data stored in the memory does not exceed a predetermined data size upon generating compression data of the block of interest in said compression step;

a second control step of controlling said storage control step so as to generate a second packet and record the generated second packet into the memory if the total data size exceeds the predetermined data size upon generating compression data of the

block of interest in said compression step, wherein the second packet includes representative image property information representing the block of interest and includes compression data of the block of interest excluding the image property information;

an expansion step of expanding sequentially each packet stored in the memory;

a first output step of outputting data of each pixel and image property information of each pixel in the block of interest represented by an expanded packet of interest, if there is the image property information for each pixel in the block of interest represented by the expanded packet of interest; and

a second output step of outputting the representative image property information included in an expanded packet of interest as the image property information for each pixel in the block of interest represented by the expanded packet of interest, and outputting data of each pixel, in the block of interest represented by the expanded packet of interest, if there is not the image property information for each pixel in the block of interest represented by the expanded packet of interest.

19. (New) The method according to claim 18, wherein the representative image property information is the information property information of the first pixel of a block.

20. (New) The method according to claim 18, further comprising:

a first setting step of setting alternative image property information according to an instruction input from a user;

a second setting step of setting a mode indicating whether or not to give priority to the alternative image property information set in said first setting step; and

a step of controlling said first and second outputting steps to output data of each pixel of each packet and output the alternative image property information so as that data of each pixel included in all packets have the alternative image property information, if one or more packet including the representative image property information is stored in the memory and if the mode is set in the second setting step to give priority to the alternative image property information.

21. (New) The method according to claim 18, further comprising a print step of printing data of each pixel included the expanded packet.

22. (New) The method according to claim 18, wherein the compression step includes a step of compressing each of the divided blocks by JPEG, and compressing the image property information by PackBits.

23. (New) The method according to claim 18, further comprising a flag output step of outputting a flag indicating that the total data size exceeds the predetermined data size.

24. (New) The method according to claim 18, further comprising:

a designation step of designating second image property information used to set a page before coupling upon coupling image data of a plurality of pages into one page, and printing coupled image data;

a substitution step of setting the second image property information as image property information of the expanded image data upon printing the image data; and

a print step of printing the expanded image data.

25. (New) The method according to claim 24, wherein the second image property information contains:

data type identification information used to identify a data type including a raster image and font data;

image type identification information used to identify one of text data and photo data; and

color identification information used to identify one of grayscale data and color data.

26. (New) The method according to claim 24, wherein the second image property information contains:

page information used to identify a page before coupling upon
printing image data of a plurality of pages on a single paper sheet;

image type identification information used to identify whether image
data is continuous tone data or image data formed by area gradation; and

information used to identify an operation mode of print means.

27. (New) An image processing apparatus, comprising:

division means for inputting an image which has image property
information for each pixel, and dividing the input image into a plurality of blocks;

compression means for compressing each of the divided blocks to
generate compression data for each block;

storage control means for storing sequentially, into a memory, the
compression data generated by said compression means;

first control means for controlling said storage control means so as
to generate a first packet including compression data of a block of interest and record the
generated first packet into the memory, if total data size of all pieces of compression data
stored in the memory does not exceed a predetermined data size upon generating
compression data of the block of interest by said compression means;

a second control means for controlling said storage control means so
as to generate a second packet and record the generated second packet into the memory if
the total data size exceeds the predetermined data size upon generating compression data of

the block of interest by said compression means, wherein the second packet includes representative image property information representing the block of interest and includes compression data of the block of interest excluding the image property information;

expansion means for expanding sequentially each packet stored in the memory;

first output means for outputting data of each pixel and image property information of each pixel in the block of interest represented by an expanded packet of interest, if there is the image property information for each pixel in the block of interest represented by the expanded packet of interest; and

second output means for outputting the representative image property information included in an expanded packet of interest as the image property information for each pixel in the block of interest represented by the expanded packet of interest, and outputting data of each pixel, in the block of interest represented by the expanded packet of interest, if there is not the image property information for each pixel in the block of interest represented by the expanded packet of interest.

28. (New) A computer-readable recording medium storing a program for causing a computer to execute:

a division procedure of inputting an image which has image property information for each pixel, and dividing the input image into a plurality of blocks;

a compression procedure of compressing each of the divided blocks to generate compression data for each block;

a storage control procedure of storing sequentially, into a memory, the compression data generated in said compression procedure;

a first control procedure of controlling said storage control procedure so as to generate a first packet including compression data of a block of interest and record the generated first packet into the memory, if total data size of all pieces of compression data stored in the memory does not exceed a predetermined data size upon generating compression data of the block of interest in said compression procedure;

a second control procedure of controlling said storage control procedure so as to generate a second packet and record the generated second packet into the memory if the total data size exceeds the predetermined data size upon generating compression data of the block of interest in said compression procedure, wherein the second packet includes representative image property information representing the block of interest and includes compression data of the block of interest excluding the image property information;

an expansion procedure of expanding sequentially each packet stored in the memory;

a first output procedure of outputting data of each pixel and image property information of each pixel in the block of interest represented by an expanded

packet of interest, if there is the image property information for each pixel in the block of interest represented by the expanded packet of interest; and

a second output procedure of outputting the representative image property information included in an expanded packet of interest as the image property information for each pixel in the block of interest represented by the expanded packet of interest, and outputting data of each pixel, in the block of interest represented by the expanded packet of interest, if there is not the image property information for each pixel in the block of interest represented by the expanded packet of interest.